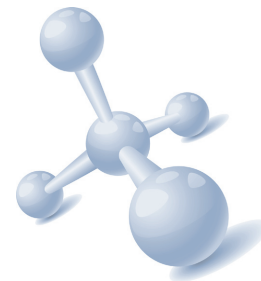


# Solutions

## for total zone isolation and matrix shut-off



### APPLICATION

TIORCO's polymer gels are designed to isolate producing wells from water influx due to:

- Channels and fractures behind pipe
- Failure of the cement bond
- Perforation into water zone
- Fractures into water zones

### DESCRIPTION

Unlike cement squeezes, TIORCO's gel penetrates into the rock matrix pores and the smallest fractures to completely shut-off fluid flow from the treated interval by reducing permeability. The gel forms as a dense rubber-like compound that is stable in the harshest of down-hole environments. The gels have been demonstrated to be strong enough to resist differential pressures exceeding 2,000 PSI or 13,790 kPa.

TIORCO's polymer gels can be mixed and placed with normal oilfield chemical and additive pump trucks. TIORCO designs the treatment and supplies the proper chemicals to take into account individual well characteristics, bottom-hole temperature and desired gel time. Typical treatment sizes vary from 0.5 to 3 m<sup>3</sup> per meter of perforated interval. For complete shut-off of a zone, the gel is designed to penetrate from 1 to 3 meters into the matrix rock.

### ADVANTAGES

- TIORCO's polymer gels exhibit a proven, long-life robustness
- It can be placed in the presence of H<sub>2</sub>S, CO<sub>2</sub>, and into a wide range of pH environments
- The working time of the gel is easily adjusted to meet exact well conditions and control the gelation time

### CRITICAL DESIGN FACTORS

- Zone definition
- Reservoir temperature
- Well mechanics
- Treating water quality

